

IN THE SPECIFICATION:

Please amend the paragraph beginning at page 16, line 16 as follows:

The thirty seventh phase of the present invention relates to the optical encoder according to the thirtieth phase, the photo detector of the light detector is configured preferably to be capable of detecting a predetermined phase portion of a light intensity pattern formed on the receiving surface of the light detector of which period p_2 is about $(z_2 + z_3)/z_3 \times p_1$, where z_2 is a distance between the scale and the light detector, p_1 is a pitch of the periodic optical pattern of the scale, and z_3 is a distance from a position of a virtual spot light source to the scale, the position being calculated from the divergent angle of the light beam having passes passed through the optical element which sets a beam divergent angle of the light beam to a predetermined value.

Please amend the paragraph beginning at page 23, line 25 as follows:

The light beam emitted from the light source 1 is directed toward the slits 100, and only the light beam having passes passed through the slit opening 102 is emitted toward the scale 2. At this time, the light beam having passed through the slit opening 102 is emitted toward the scale 2 as a spherical wave on a virtual spot light source of the slit opening 102, and enters the light detector 3 by way of the scale 2.